



## Environmental threats prospectively predict early initiation of marijuana use among adolescents.

### BACKGROUND

- Research suggests that environmental factors influence marijuana use among adolescents, particularly early initiation of use.
- Risk environments are characterized by the availability of drugs and the acceptance from peers (Verweij, K. J et. al., 2010). Also, lack of communication with parent increases the likelihood of marijuana usage (Ellickson, P. L. et. al 2004).
- Supportive environments are characterized by sustainable communities and have been found to increase the quality of one's life (Srinivasan, S. et. al., 2003).
- Bronfenbrenner's Ecological Model offers a microsystem framework to understand the effects of a child's immediate environment on negative outcomes such as drug use (Bronfenbrenner, 1976). This model suggests that individual difference variables such as perceived stress play an intervening role in the impact of environment on various outcomes.

### OBJECTIVES

To examine the potential mediating role of perceived stress in the relationship between Environmental Supports/Threats and Age of Marijuana Initiation. We conducted a prospective examination with a community sample of adolescents.

#### Hypotheses:

- Greater environmental supports will lead to lower levels of perceived stress which will in turn lead to later initiation of marijuana use or no marijuana use.
- Greater environmental threats will lead to higher levels of perceived stress which will in turn lead to earlier initiation of marijuana use.

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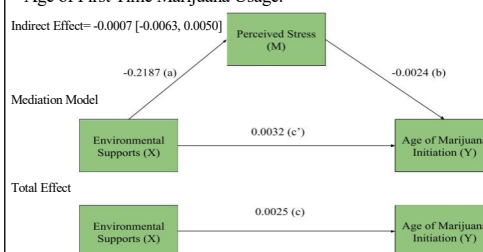


### RESULTS

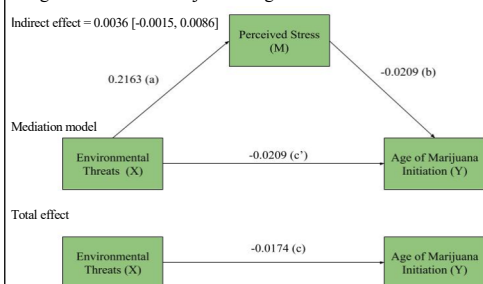
Our mediation hypothesis was not supported.

Perceived Stress does not mediate the relationship between Environmental Supports/Threats and Age of Marijuana Initiation. However, there was evidence for a direct effect of Environmental Threats at year 2 and Age of Marijuana Initiation at year 5.

**Figure 1.** Mediation Model Depicting Effects of Perceived Stress Scores on the Relationship between Environmental Supports and Age of First Time Marijuana Usage.



**Figure 2.** Mediation Model Depicting Effects of Perceived Stress Scores on the Relationship between Environmental Threats and Age of First Time Marijuana Usage.



### METHODS

- N = 624, Age (10.88, SD=1.238), 54% male and 46% female, Majority identified as Caucasian or African American ethnicity, Family income (\$81,115.80, SD=\$68,808).
- Participants recruited through local schools, libraries, and Boys & Girls Clubs.
- Laboratory-based, longitudinal study.
- Data collected at two points, 3 years apart.

#### Measures:

- Environmental Supports/Threats.** The *Tyler Environmental Scale* (Unpublished Questionnaire; Tyler et al., 1991).
- Perceived Stress.** The *Perceived Stress Scale* (Cohen et. al., 1983).
- Age of Marijuana Initiation.** The following item was selected from the *Youth Risk Behavior Survey* "How old were you when you tried marijuana for the first time?" (Brener et al., 1995).

**Table 1.**

Mediation Effects of Perceived Stress Scores on the Relationship between Environmental Supports and Age of Marijuana Initiation, N=322.

Effect	b	95% CI	
		Lower	Upper
Total	0.01	-0.01	0.02
Direct	0.01	-0.01	0.02
Indirect (mediation)	0.00	-0.01	0.01

**Table 2.**

Mediation Effects of Perceived Stress Scores on the Relationship between Environmental Threats and Age of Marijuana Initiation, N=319.

Effect	b	95% CI	
		Lower	Upper
Total	0.22	0.01	0.04
Direct	0.02	0.01	0.04
Indirect (mediation)	0.00	-0.01	0.01

### DISCUSSION

- A threatening environment directly effects earlier initiation of marijuana.
- Tests of mediation were not significant for both models.

#### Limitations:

- Participants taken from a community sample from the greater DC area, which limits the ability to generalize these findings.
- Data on Age of Marijuana Initiation was collected through a self-report survey in which participants may report falsely due to feelings of embarrassment, fear of consequences, or to avoid judgement.

#### Implications:

- In the future, one can perform a similar study on a, broader, more extensive sample which will allow one to generalize the population.
- These findings can help identify and lessen the effects of environmental threats in order to lower adolescent marijuana usage.